Contests for public goods

Chapter 5

Conclusion

In this dissertation I examine group contests for both endogenous and exogenous public goods. Three studies jointly illustrate that participants accede to a pernicious one-upping in order to outdo the competing party. This tendency to over-contribute in (group) contest games complements earlier studies (Sheremeta, 2015; Dechenaux et al., 2012). Taking extant contributions in that field into account I investigate the role of fundamental institutions, which have been characterised as vehicles to promote cooperation towards a more efficient strategy in cooperative games (Williamson, 1985; Ostrom, 1990; Sefton et al., 2007; Fehr and Gächter, 2000). The results of my studies, however, paint a grim picture of the role of these simple institutions – such as rewarding and punishment, free form text communication or wealth redistribution – in group contest games. Unequivocally, players use them to push groupmates to intensify the between-group contest and add insult to injury.

Does this mean that the results of my research substantiate a critical view on the role of institutions in society? Evidently, the tenet of the beneficial character of efficient institutions is deeply rooted in our understanding of a well functioning society (Hobbes, 1651; Locke, 1698). Yet, my results show that instead of steering a group towards efficiency in a deus ex machina fashion, institutions help groups coordinate towards what its members come to perceive as desirable. In point of fact, human history knows plenty of examples for efficiently designed institutions which have propelled an objectionable cause.

Obviously, my results do not shatter the axiom that institutions help overcome coordination problems. Irrespective of its efficiency implications, given that groups carry the desire to raise the spending level in my studies, its members successfully utilise the channels which are at their disposal to achieve this target. Hence, institutions rather influence people to cooperate toward some goal which they come to find desirable. The crucial point of the matter is what determines the group's goal.

In the past chapters I have presented test results and discussions of some of the most prominent hypotheses on the underlying group dynamics in contests for public goods. In Chapter 2 we model a tendering market for a cooperative project to study the role of sunk costs for individual cooperativeness in a public goods game. To this end, there are two types of sunk costs – deliberately accrued expenses and exogenously imposed deductions. Players in the *competition treatment* enter a group contest for access to a more attractive cooperative project. In the *exogenous treatment*, by contrast, this decision is superimposed

onto the participants, such that they do not cast this decision themselves. Although these are mathematically identical, there is some heterogeneity in how participants are influenced by these types of sunk costs. Except for losing teams in the latter treatment, there exists a positive relationship between expenses for the tender and contribution to the cooperative project. In this special case, it is the relatively more wealthy subjects who chip in more resources to the public good.

Furthermore, there exists a detrimental effect for participants' willingness to cooperate in the *competition treatment* when their team hast lost. As this is not met by a similar markup for the winning groups, we argue that the establishment of a tender for (public) procurement purposes does not convey a signal for their willingness to cooperate. This result casts doubt on whether the institution of a contest for procurement can live up to alternative forms of appropriation.

In Chapter 3 we investigate a team contest for a group prize. Furthermore, we establish two economic environments: One in which two groups compete for a public good and one in which groups face an equilibrium playing mechanism to secure the public good. This way we can isolate the effect of being in a competition with another group. We observe that – while to a different degree – in both environments, players use the institution of reciprocating teammates' actions by the means of rewarding and/or punishing to influence them to chip in additional resources. To this end, we find rewarding to be more successful in spurring a higher contribution level onto other teammates, detrimental efficiency implications abound.

Chapter 4 constitutes the first (experimental) study of its kind, examining different types of leadership in a team contest. We investigate whether the institution of a central authority can help the group coordinate towards de-escalation or if leaders instigate a more aggressive approach.

Our results confirm the latter hypothesis: Most leaders incentivise their followers for spending resources to the contest, which causes an escalation of the two-party competition. While free form text communication between competing leaders can lead to some degree of mitigation, its effect for overall social welfare remain meagre. On a more optimistic note, by using the chat function, some leaders coordinate on taking turns to spend resources, which pans out to be successful at establishing a more efficient play.